



SIRIUS soft starter 200-690 V 25 A, 110-250 V AC Screw terminals

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| product brand name                    | SIRIUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| product category                      | Hybrid switching devices                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| product designation                   | Soft starter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| product type designation              | 3RW55                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| manufacturer's article number         | <ul style="list-style-type: none"> <li>• of high feature HMI module usable <a href="#">3RW5980-0HF00</a></li> <li>• of communication module PROFINET standard usable <a href="#">3RW5980-0CS00</a></li> <li>• of communication module PROFINET high-feature usable <a href="#">3RW5950-0CH00</a></li> <li>• of communication module PROFIBUS usable <a href="#">3RW5980-0CP00</a></li> <li>• of communication module Modbus TCP usable <a href="#">3RW5980-0CT00</a></li> <li>• of communication module Modbus RTU usable <a href="#">3RW5980-0CR00</a></li> <li>• of communication module Ethernet/IP <a href="#">3RW5980-0CE00</a></li> <li>• of the gG fuse usable up to 690 V <a href="#">3NA3824-6; Type of coordination 1, Iq = 65 kA</a></li> <li>• of the gG fuse usable at inside-delta circuit up to 500 V <a href="#">3NA3824-6; Type of coordination 1, Iq = 65 kA</a></li> <li>• of full range R fuse link for semiconductor protection usable up to 690 V <a href="#">3NE1817-0; Type of coordination 2, Iq = 65 kA</a></li> <li>• of back-up R fuse link for semiconductor protection usable up to 690 V <a href="#">3NE8021-1; Type of coordination 2, Iq = 65 kA</a></li> </ul> |
| <b>General technical data</b>         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| starting voltage [%]                  | 20 ... 100 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| stopping voltage [%]                  | 50 %; non-adjustable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| start-up ramp time of soft starter    | 0 ... 360 s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ramp-down time of soft starter        | 0 ... 360 s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| start torque [%]                      | 10 ... 100 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| stopping torque [%]                   | 10 ... 100 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| torque limitation [%]                 | 20 ... 200 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| current limiting value [%] adjustable | 125 ... 800 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| breakaway voltage [%] adjustable      | 40 ... 100 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| breakaway time adjustable             | 0 ... 2 s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| number of parameter sets              | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| accuracy class                        | 5 (based on IEC 61557-12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| certificate of suitability            | <ul style="list-style-type: none"> <li>• CE marking Yes</li> <li>• UL approval Yes</li> <li>• CSA approval Yes</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| product component                     | <ul style="list-style-type: none"> <li>• HMI-High Feature Yes</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • is supported HMI-High Feature                              | Yes                                                                                                                                                                                                                                                                                                               |
| <b>product feature integrated bypass contact system</b>      | Yes                                                                                                                                                                                                                                                                                                               |
| <b>number of controlled phases</b>                           | 3                                                                                                                                                                                                                                                                                                                 |
| <b>current unbalance limiting value [%]</b>                  | 10 ... 60 %                                                                                                                                                                                                                                                                                                       |
| <b>ground-fault monitoring limiting value [%]</b>            | 10 ... 95 %                                                                                                                                                                                                                                                                                                       |
| <b>buffering time in the event of power failure</b>          |                                                                                                                                                                                                                                                                                                                   |
| • for main current circuit                                   | 100 ms                                                                                                                                                                                                                                                                                                            |
| • for control circuit                                        | 100 ms                                                                                                                                                                                                                                                                                                            |
| <b>idle time adjustable</b>                                  | 0 ... 255 s                                                                                                                                                                                                                                                                                                       |
| <b>insulation voltage rated value</b>                        | 690 V                                                                                                                                                                                                                                                                                                             |
| <b>degree of pollution</b>                                   | 3, acc. to IEC 60947-4-2                                                                                                                                                                                                                                                                                          |
| <b>impulse voltage rated value</b>                           | 8 kV                                                                                                                                                                                                                                                                                                              |
| <b>blocking voltage of the thyristor maximum</b>             | 1 800 V                                                                                                                                                                                                                                                                                                           |
| <b>service factor</b>                                        | 1.15                                                                                                                                                                                                                                                                                                              |
| <b>surge voltage resistance rated value</b>                  | 8 kV                                                                                                                                                                                                                                                                                                              |
| <b>maximum permissible voltage for protective separation</b> |                                                                                                                                                                                                                                                                                                                   |
| • between main and auxiliary circuit                         | 690 V; does not apply for thermistor connection                                                                                                                                                                                                                                                                   |
| <b>shock resistance</b>                                      | 15 g / 11 ms, from 6 g / 11 ms with potential contact lifting                                                                                                                                                                                                                                                     |
| <b>vibration resistance</b>                                  | 15 mm up to 6 Hz; 2 g up to 500 Hz                                                                                                                                                                                                                                                                                |
| <b>recovery time after overload trip adjustable</b>          | 60 ... 1 800 s                                                                                                                                                                                                                                                                                                    |
| utilization category according to IEC 60947-4-2              | AC 53a                                                                                                                                                                                                                                                                                                            |
| <b>reference code according to IEC 81346-2</b>               | Q                                                                                                                                                                                                                                                                                                                 |
| <b>Substance Prohibitance (day/month/year)</b>               | 02/15/2018                                                                                                                                                                                                                                                                                                        |
| <b>SVHC substance name</b>                                   | Lead CAS-No. 7439-92-1<br>Lead monoxide (lead oxide) CAS-No. 1317-36-8<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5<br>Melamine CAS-No. 108-78-1<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1<br>Dibutylbis(pentane-2,4-dionato-O,O')tin CAS-No. 22673-19-4 |
| <b>Net Weight</b>                                            | 4.928 kg                                                                                                                                                                                                                                                                                                          |
| <b>product function</b>                                      |                                                                                                                                                                                                                                                                                                                   |
| • ramp-up (soft starting)                                    | Yes                                                                                                                                                                                                                                                                                                               |
| • soft stopping                                              | Yes                                                                                                                                                                                                                                                                                                               |
| • breakaway pulse                                            | Yes                                                                                                                                                                                                                                                                                                               |
| • adjustable current limitation                              | Yes                                                                                                                                                                                                                                                                                                               |
| • creep speed in both directions of rotation                 | Yes                                                                                                                                                                                                                                                                                                               |
| • pump stop                                                  | Yes                                                                                                                                                                                                                                                                                                               |
| • DC braking                                                 | Yes                                                                                                                                                                                                                                                                                                               |
| • motor heating                                              | Yes                                                                                                                                                                                                                                                                                                               |
| • min/max pointer                                            | Yes                                                                                                                                                                                                                                                                                                               |
| • trace function                                             | Yes                                                                                                                                                                                                                                                                                                               |
| • intrinsic device protection                                | Yes                                                                                                                                                                                                                                                                                                               |
| • motor overload protection                                  | Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)                                                                                                                                                                                                                 |
| • evaluation of thermistor motor protection                  | Yes; Type A PTC or Klaxon / Thermoclick                                                                                                                                                                                                                                                                           |
| • inside-delta circuit                                       | Yes; Only up to 600 V operating voltage                                                                                                                                                                                                                                                                           |
| • auto-RESET                                                 | Yes                                                                                                                                                                                                                                                                                                               |
| • manual RESET                                               | Yes                                                                                                                                                                                                                                                                                                               |
| • remote reset                                               | Yes                                                                                                                                                                                                                                                                                                               |
| • communication function                                     | Yes                                                                                                                                                                                                                                                                                                               |
| • operating measured value display                           | Yes                                                                                                                                                                                                                                                                                                               |
| • event list                                                 | Yes                                                                                                                                                                                                                                                                                                               |
| • error logbook                                              | Yes                                                                                                                                                                                                                                                                                                               |
| • via software parameterizable                               | Yes                                                                                                                                                                                                                                                                                                               |
| • via software configurable                                  | Yes                                                                                                                                                                                                                                                                                                               |
| • screw terminal                                             | Yes                                                                                                                                                                                                                                                                                                               |
| • spring-loaded terminal                                     | No                                                                                                                                                                                                                                                                                                                |
| • <b>PROFenergy</b>                                          | Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules                                                                                                                                                                                                                     |
| • <b>firmware update</b>                                     | Yes                                                                                                                                                                                                                                                                                                               |

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| <ul style="list-style-type: none"> <li>• removable terminal for control circuit</li> <li>• voltage ramp</li> <li>• torque control</li> <li>• combined braking</li> <li>• analog output</li> <li>• programmable control inputs/outputs</li> <li>• condition monitoring</li> <li>• automatic parameterisation</li> <li>• application wizards</li> <li>• alternative stopping mode</li> <li>• emergency operation mode</li> <li>• reversing operation</li> <li>• soft starting at heavy starting conditions</li> </ul> | Yes<br>Yes<br>Yes<br>Yes<br>Yes; 4 ... 20 mA (default) / 0 ... 10 V<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes |
| <b>Power Electronics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                             |
| <b>operational current</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 40 °C rated value</li> <li>• at 40 °C rated value minimum</li> <li>• at 50 °C rated value</li> <li>• at 60 °C rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                    | 25 A<br>5 A<br>22.3 A<br>19.6 A                                                                                             |
| <b>operational current at inside-delta circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 40 °C rated value</li> <li>• at 50 °C rated value</li> <li>• at 60 °C rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            | 43.3 A<br>39 A<br>33.9 A                                                                                                    |
| <b>operating voltage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                             |
| <ul style="list-style-type: none"> <li>• rated value</li> <li>• at inside-delta circuit rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                      | 200 ... 690 V<br>200 ... 600 V                                                                                              |
| <b>relative negative tolerance of the operating voltage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -15 %                                                                                                                       |
| <b>relative positive tolerance of the operating voltage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10 %                                                                                                                        |
| <b>relative negative tolerance of the operating voltage at inside-delta circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                 | -15 %                                                                                                                       |
| <b>relative positive tolerance of the operating voltage at inside-delta circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10 %                                                                                                                        |
| <b>operating power for 3-phase motors</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 230 V at 40 °C rated value</li> <li>• at 230 V at inside-delta circuit at 40 °C rated value</li> <li>• at 400 V at 40 °C rated value</li> <li>• at 400 V at inside-delta circuit at 40 °C rated value</li> <li>• at 500 V at 40 °C rated value</li> <li>• at 500 V at inside-delta circuit at 40 °C rated value</li> <li>• at 690 V at 40 °C rated value</li> </ul>                                                                                                     | 5.5 kW<br>11 kW<br>11 kW<br>18.5 kW<br>15 kW<br>22 kW<br>22 kW                                                              |
| <b>Operating frequency 1 rated value</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 50 Hz                                                                                                                       |
| <b>Operating frequency 2 rated value</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 60 Hz                                                                                                                       |
| <b>relative negative tolerance of the operating frequency</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                       | -10 %                                                                                                                       |
| <b>relative positive tolerance of the operating frequency</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 10 %                                                                                                                        |
| <b>minimum load [%]</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10 %; Relative to set le                                                                                                    |
| <b>power loss [W] for rated value of the current at AC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 40 °C after startup</li> <li>• at 50 °C after startup</li> <li>• at 60 °C after startup</li> </ul>                                                                                                                                                                                                                                                                                                                                                                      | 8 W<br>7 W<br>6 W                                                                                                           |
| <b>power loss [W] at AC at current limitation 350%</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 40 °C during startup</li> <li>• at 50 °C during startup</li> <li>• at 60 °C during startup</li> </ul>                                                                                                                                                                                                                                                                                                                                                                   | 332 W<br>283 W<br>239 W                                                                                                     |
| <b>type of the motor protection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Electronic, tripping in the event of thermal overload of the motor                                                          |
| <b>Control circuit/ Control</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                             |
| <b>type of voltage of the control supply voltage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                | AC                                                                                                                          |
| <b>control supply voltage at AC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                    | 110 ... 250 V<br>110 ... 250 V                                                                                              |

|                                                                          |                                                                                                                                                                                |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| relative negative tolerance of the control supply voltage at AC at 50 Hz | -15 %                                                                                                                                                                          |
| relative positive tolerance of the control supply voltage at AC at 50 Hz | 10 %                                                                                                                                                                           |
| relative negative tolerance of the control supply voltage at AC at 60 Hz | -15 %                                                                                                                                                                          |
| relative positive tolerance of the control supply voltage at AC at 60 Hz | 10 %                                                                                                                                                                           |
| control supply voltage frequency                                         | 50 ... 60 Hz                                                                                                                                                                   |
| relative negative tolerance of the control supply voltage frequency      | -10 %                                                                                                                                                                          |
| relative positive tolerance of the control supply voltage frequency      | 10 %                                                                                                                                                                           |
| control supply current in standby mode rated value                       | 100 mA                                                                                                                                                                         |
| holding current in bypass operation rated value                          | 180 mA                                                                                                                                                                         |
| inrush current by closing the bypass contacts maximum                    | 0.8 A                                                                                                                                                                          |
| inrush current peak at application of control supply voltage maximum     | 43 A                                                                                                                                                                           |
| duration of inrush current peak at application of control supply voltage | 1.6 ms                                                                                                                                                                         |
| design of the overvoltage protection                                     | Varistor                                                                                                                                                                       |
| design of short-circuit protection for control circuit                   | 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply |

#### Inputs/ Outputs

|                                                 |                                                           |
|-------------------------------------------------|-----------------------------------------------------------|
| number of digital inputs                        | 4                                                         |
| • parameterizable                               | 4                                                         |
| • number of digital outputs                     | 4                                                         |
| • number of digital outputs parameterizable     | 3                                                         |
| • number of digital outputs not parameterizable | 1                                                         |
| digital output version                          | 3 normally-open contacts (NO) / 1 changeover contact (CO) |
| number of analog outputs                        | 1                                                         |
| switching capacity current of the relay outputs |                                                           |
| • at AC-15 at 250 V rated value                 | 3 A                                                       |
| • at DC-13 at 24 V rated value                  | 1 A                                                       |

#### Installation/ mounting/ dimensions

|                                             |                                                                            |
|---------------------------------------------|----------------------------------------------------------------------------|
| mounting position                           | Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) |
| fastening method                            | screw fixing                                                               |
| height                                      | 306 mm                                                                     |
| width                                       | 185 mm                                                                     |
| depth                                       | 203 mm                                                                     |
| required spacing with side-by-side mounting |                                                                            |
| • forwards                                  | 10 mm                                                                      |
| • backwards                                 | 0 mm                                                                       |
| • upwards                                   | 100 mm                                                                     |
| • downwards                                 | 75 mm                                                                      |
| • at the side                               | 5 mm                                                                       |
| weight without packaging                    | 5.5 kg                                                                     |

#### Connections/ Terminals

|                                                                                 |                      |
|---------------------------------------------------------------------------------|----------------------|
| type of electrical connection                                                   |                      |
| • for main current circuit                                                      | box terminal         |
| • for control circuit                                                           | screw-type terminals |
| width of connection bar maximum                                                 | 25 mm                |
| wire length for thermistor connection                                           |                      |
| • with conductor cross-section = 0.5 mm² maximum                                | 50 m                 |
| • with conductor cross-section = 1.5 mm² maximum                                | 150 m                |
| • with conductor cross-section = 2.5 mm² maximum                                | 250 m                |
| type of connectable conductor cross-sections for main contacts for box terminal |                      |
| • using the front clamping point solid                                          | 1x (2.5 ... 16 mm²)  |
| • using the front clamping point finely stranded with core                      | 1x (2.5 ... 50 mm²)  |

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| <ul style="list-style-type: none"> <li>end processing</li> <li>• using the front clamping point stranded</li> <li>• using the back clamping point solid</li> <li>• r box terminal using the back clamping point</li> <li>• using both clamping points solid</li> <li>• using both clamping points finely stranded with core end processing</li> <li>• using both clamping points stranded</li> <li>• using the back clamping point finely stranded with core end processing</li> <li>• using the back clamping point stranded</li> </ul>                                                                                                                                                                                                                           | 1x (10 ... 70 mm <sup>2</sup> )<br>1x (2.5 ... 16 mm <sup>2</sup> )<br>1x (10 ... 2/0)<br>2x (2.5 ... 16 mm <sup>2</sup> )<br>2x (2.5 ... 35 mm <sup>2</sup> )<br><br>2x (6 ... 16 mm <sup>2</sup> ), 2x (10 ... 50 mm <sup>2</sup> )<br>1x (2.5 ... 50 mm <sup>2</sup> )<br><br>1x (10 ... 70 mm <sup>2</sup> )                                                                                                                                                                                                                                                                                                                                |
| <b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for control circuit solid</li> <li>• for control circuit finely stranded with core end processing</li> <li>• for AWG cables for control circuit solid</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )<br>1x (20 ... 12), 2x (20 ... 14)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>wire length</b> <ul style="list-style-type: none"> <li>• between soft starter and motor maximum</li> <li>• at the digital inputs at DC maximum</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 800 m<br>1 000 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>tightening torque</b> <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary and control contacts with screw-type terminals</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4.5 ... 6 N·m<br>0.8 ... 1.2 N·m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>tightening torque [lbf·in]</b> <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary and control contacts with screw-type terminals</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 40 ... 53 lbf·in<br>7 ... 10.3 lbf·in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Ambient conditions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| installation altitude at height above sea level maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2 000 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>ambient temperature</b> <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage and transport</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | -25 ... +60 °C; Please observe derating at temperatures of 40 °C or above<br>-40 ... +80 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>environmental category</b> <ul style="list-style-type: none"> <li>• during operation according to IEC 60721</li> <li>• during storage according to IEC 60721</li> <li>• during transport according to IEC 60721</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6<br><br>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4<br><br>2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)                                                                                                                                                                                                                                                                                                                                                       |
| <b>Electromagnetic compatibility</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>EMC emitted interference</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | acc. to IEC 60947-4-2: Class A, Class B on request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Communication/ Protocol</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>communication module is supported</b> <ul style="list-style-type: none"> <li>• PROFINET standard</li> <li>• PROFINET high-feature</li> <li>• EtherNet/IP</li> <li>• Modbus RTU</li> <li>• Modbus TCP</li> <li>• PROFIBUS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>UL/CSA ratings</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>manufacturer's article number</b> <ul style="list-style-type: none"> <li>• of circuit breaker usable for Standard Faults <ul style="list-style-type: none"> <li>— at 460/480 V according to UL</li> <li>— 60/480 V according to UL</li> <li>— at 460/480 V at inside-delta circuit according to UL</li> <li>— 60/480 V at inside-delta circuit according to UL</li> <li>— at 575/600 V according to UL</li> <li>— 75/600 V at inside-delta circuit according to UL</li> <li>— at 575/600 V at inside-delta circuit according to UL</li> </ul> </li> <li>• of the fuse <ul style="list-style-type: none"> <li>— usable for Standard Faults up to 575/600 V according to UL</li> <li>— usable for High Faults up to 575/600 V according to</li> </ul> </li> </ul> | Siemens type: 3RV2742, max. 70 A or 3VA51, max. 70 A; I <sub>q</sub> = 5 kA<br>Siemens type: 3VA51, max. 60 A; I <sub>q</sub> max = 65 kA<br>Siemens type: 3RV2742, max. 70 A or 3VA51, max. 70 A; I <sub>q</sub> = 5 kA<br>Siemens type: 3VA51, max. 60 A; I <sub>q</sub> max = 65 kA<br>Siemens type: 3RV2742, max. 70 A or 3VA51, max. 70 A; I <sub>q</sub> = 5 kA<br>Siemens type: 3VA51, max. 60 A; I <sub>q</sub> max = 65 kA<br>Siemens type: 3RV2742, max. 70 A or 3VA51, max. 70 A; I <sub>q</sub> = 5 kA<br><br>Type: Class RK5 / K5, max. 100 A; I <sub>q</sub> = 5 kA<br><br>Type: Class J / L, max. 100 A; I <sub>q</sub> = 100 kA |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                              |                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------|
| UL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                              |                                |
| — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Type: Class RK5 / K5, max. 100 A; Iq = 5 kA                                                  |                                |
| — usable for High Faults at inside-delta circuit up to 575/600 V according to UL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Type: Class J / L, max. 100 A; Iq = 100 kA                                                   |                                |
| operating power [hp] for 3-phase motors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                              |                                |
| • at 200/208 V at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 5 hp                                                                                         |                                |
| • at 220/230 V at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 7.5 hp                                                                                       |                                |
| • at 460/480 V at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 15 hp                                                                                        |                                |
| • at 575/600 V at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20 hp                                                                                        |                                |
| • at 200/208 V at inside-delta circuit at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 10 hp                                                                                        |                                |
| • at 220/230 V at inside-delta circuit at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 10 hp                                                                                        |                                |
| • at 460/480 V at inside-delta circuit at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 25 hp                                                                                        |                                |
| • at 575/600 V at inside-delta circuit at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 30 hp                                                                                        |                                |
| contact rating of auxiliary contacts according to UL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | R300-B300                                                                                    |                                |
| Electrical Safety                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                              |                                |
| protection class IP on the front according to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | IP00; IP20 with cover                                                                        |                                |
| touch protection on the front according to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | finger-safe, for vertical contact from the front with cover                                  |                                |
| ATEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                              |                                |
| Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SIL 1                                                                                        |                                |
| PFHD with high demand rate according to IEC 61508 relating to ATEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5E-7 1/h                                                                                     |                                |
| PFDavg with low demand rate according to IEC 61508 relating to ATEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.008                                                                                        |                                |
| hardware fault tolerance according to IEC 61508 relating to ATEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0                                                                                            |                                |
| T1 value for proof test interval or service life according to IEC 61508 relating to ATEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3 a                                                                                          |                                |
| certificate of suitability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                              |                                |
| • ATEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Yes                                                                                          |                                |
| • IECEx                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Yes                                                                                          |                                |
| • according to ATEX directive 2014/34/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | BVS 18 ATEX F 003 X                                                                          |                                |
| type of protection according to ATEX directive 2014/34/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | II (2)G [Ex eb Gb] [Ex db Gb] [Ex pxb Gb], II (2)D [Ex tb Db] [Ex pxb Db], I (M2) [Ex db Mb] |                                |
| Approvals Certificates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                              |                                |
| Environmental Product Declaration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                              |                                |
| • global warming potential [CO2 eq] / during manufacturing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 92.6 kg                                                                                      |                                |
| • global warming potential [CO2 eq] / during sales                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2.37 kg                                                                                      |                                |
| • global warming potential [CO2 eq] / during operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 324 kg                                                                                       |                                |
| • global warming potential [CO2 eq] / after end of life                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | -19.4 kg                                                                                     |                                |
| • global warming potential [CO2 eq] / total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 399 kg                                                                                       |                                |
| Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | General Product Approval                                                                     |                                |
| <div>Environmental Conformations</div> <div><div>Siemens EcoTech</div><div></div><div></div><div></div><div></div></div>                                                                                                                      |                                                                                              |                                |
| General Product Approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | EMV                                                                                          | For use in hazardous locations |
| <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> |                                                                                              |                                |
| Test Certificates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Maritime application                                                                         |                                |

other

[Confirmation](#)



#### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5521-1HA16>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5521-1HA16>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5521-1HA16&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5521-1HA16&lang=en)

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5521-1HA16>

Kennlinien

<https://curves.simar.siemens.com/curves/3RW5521-1HA16>

Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

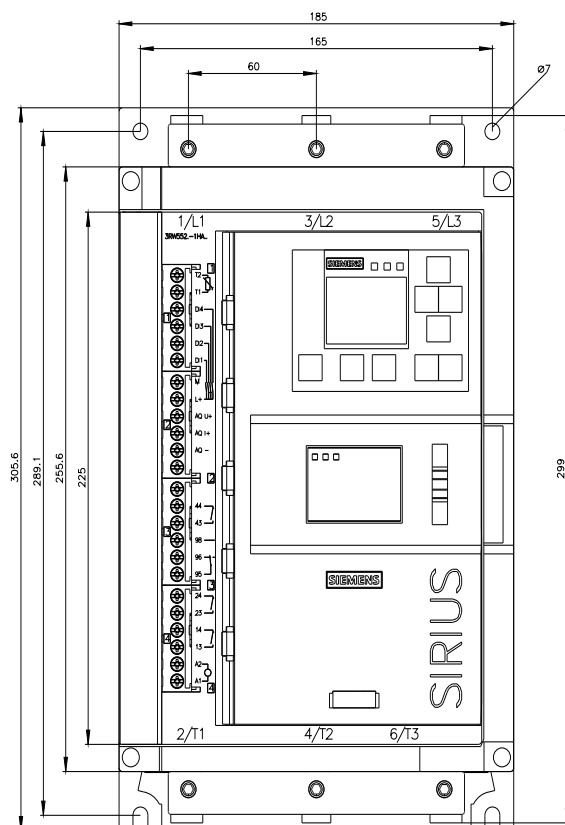
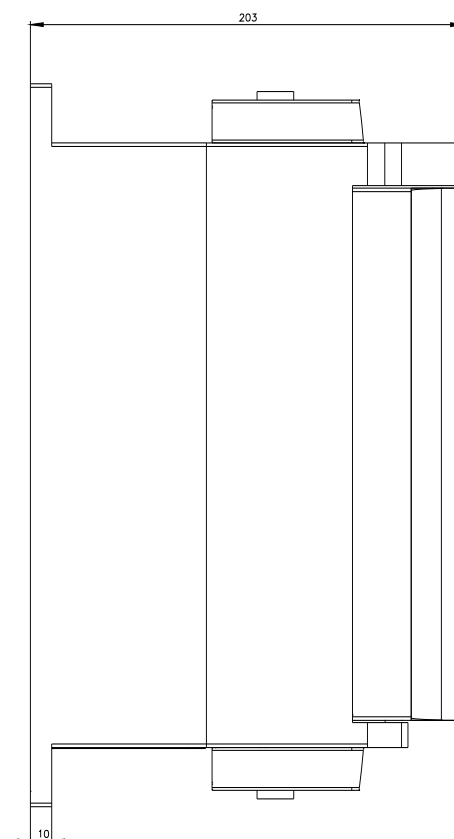
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5521-1HA16/char>

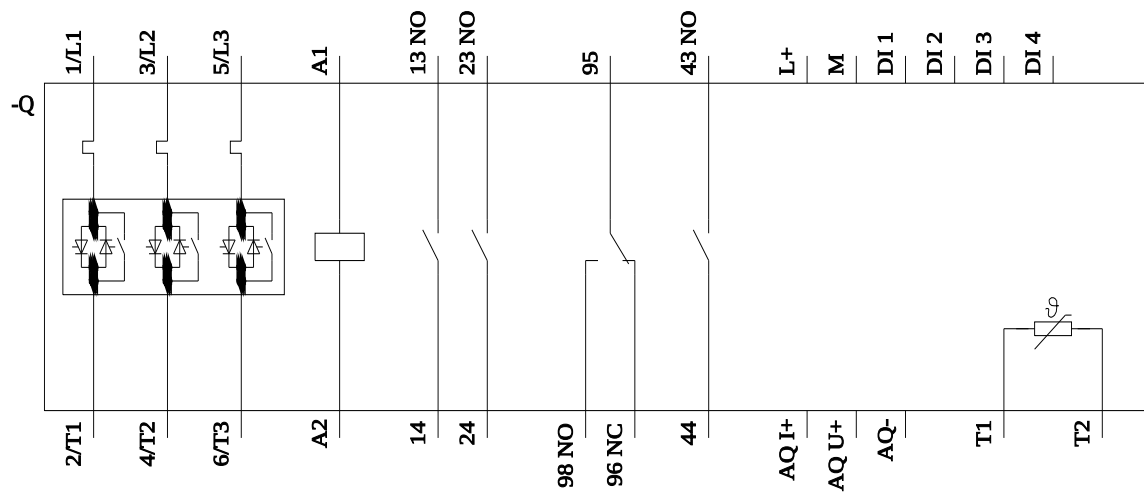
Characteristic: Installation altitude

[https://www.automation.siemens.com/bilddb/index.aspx?gridview=view2&objkey=G\\_NSB0\\_XX\\_01704&showdetail=true&view=Search](https://www.automation.siemens.com/bilddb/index.aspx?gridview=view2&objkey=G_NSB0_XX_01704&showdetail=true&view=Search)

Simulation Tool for Soft Starters (STS)

<https://support.industry.siemens.com/cs/ww/en/view/101494917>





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9/5/2025

